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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,455	11/02/2001	William E. Mickols	44207B	1991

109 7590 04/01/2003

THE DOW CHEMICAL COMPANY  
INTELLECTUAL PROPERTY SECTION  
P. O. BOX 1967  
MIDLAND, MI 48641-1967

EXAMINER

FORTUNA, ANA M

ART UNIT PAPER NUMBER

1723

DATE MAILED: 04/01/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/005,455

Applicant(s)

Mikols

Examiner

Ana Fortuna

Art Unit

1723



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Nov 2, 2001
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 8, 10, 11, 13, and 14 is/are rejected.
- 7) ☒ Claim(s) 6, 9, 12, and 15-17 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2-3
- 4) ☐ Interview Summary (PTO-413) Paper No(s).
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 1723

## DETAILED ACTION

### *Claim Rejections - 35 U.S.C. § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7-8, 10-11, 14-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chau et al. (4,983,291)('291). Reference '291 discloses the polyamide membrane and the membrane with added a phosphorous containing compound, e.g. triethylphosphite, hexanethylphosphoramidate, to the polyamine solution, to enhance the rate of water, or water flux through the membrane (abstract, column 3, lines 3-66, column 6, lines 15-39, column 11, lines 36-44). The phosphoramidate and the phosphite having the solubility claimed, and the formula of claims 4 and 10 are disclosed. '291 fails to clearly disclose the membrane having at least 15 micrograms of phosphorous per gram of polyamide after washing. However, the phosphorous containing compound is provided within the membrane composition, e.g. contacting the acyl halide during a reaction with amine to form the polyamide layer (column 5, lines 1-68, column 6, lines 1-39). The content of phosphorous containing compound is disclosed to be from 0.01 to 75 % (column 6, lines 23-39), therefore, it would have been obvious to one skilled in the art at the

Art Unit: 1723

time the invention was made to expect a high level of phosphorus in the final membrane, based on the phosphorous reaction within the process of making the membrane, one skilled in the art at the time the invention was made should have been expected most of the phosphorous to be retained within the membrane. As to claims claim 3, phosphor amide is disclosed (column 6, second paragraph). As to claims 4, 5, 7, 8, 10, 11, 13, 14 are disclosed and represented by the phosphorous compounds disclosed in '291, and discussed above.

*Allowable Subject Matter*

3. Claims 6, 9, 12, 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The membrane containing the amount of phosphorus containing aromatic groups as claimed in the above claims is not disclosed or suggested by the prior art of record.

4.. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana Fortuna whose telephone number is (703) 308-3857. The examiner can normally be reached on Monday-Friday from 9:30 to 6:00.

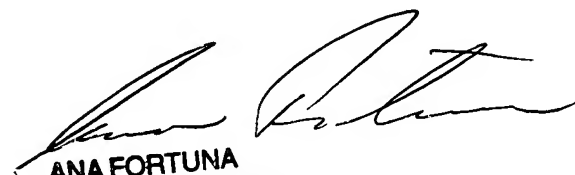
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached on (703) 308-0457. The fax phone number for the organization

Art Unit: 1723

where this application or proceeding is assigned is (703) 872-9310 for regular responses, and  
(703)872-9311 for after finals.

Ana Fortuna

March 24, 2003



**ANA FORTUNA**  
**PRIMARY EXAMINER**